

127 F.Supp.2d 833 (1999)

Alice HIRT; Anabel Dwyer; Citizens for Alternatives to Chemical Contamination; Kathryn Cumbow; Robert Anderson; Doris Schaller Vernon; and Terry Miller, Plaintiffs,

v.

Bill RICHARDSON, Secretary, United States Department of Energy; United States of America; and Unknown Part(y)(ies), named as "John and Jane Doe" on complaint, Defendants.

No. 1:99-CV-933.

United States District Court, W.D. Michigan, Southern Division.

December 17, 1999.

835 *834 *835 Terry J. Lodge, Toledo, OH, Kary Love, Holland, MI, for Plaintiffs.

836 *836 Robert I. Dodge, U.S. Attorney's Office, Western District of Michigan, Grand Rapids, MI, for Defendants.

OPINION

ENSLEN, Chief Judge.

INTRODUCTION

This case proves that the most difficult cases for judges to decide are those in which both parties are well intentioned, intelligent, and motivated by the public's interest. This case is about the interrelationship between three of the most important public policy issues of our time. First, the case requires the Court to consider nuclear proliferation, and the threat posed by terrorists and/or rogue nations acquiring materials capable of producing nuclear weapons. Second, the case demands an appreciation for the unique safety considerations involved in the operation of nuclear reactors, and the inherent dangers associated with such facilities. Third, the instant matter calls for an examination of the extent to which nuclear materials may be safely transported from one place to another, and the risk of accident or terrorist attack that attaches to those shipments. For two days the parties in this case have presented arguments and evidence which touch on each of these important issues. While the parties do not agree on what the Court's decision should be, the Court is convinced beyond doubt that both parties are deeply concerned about protecting the public and minimizing the dangers associated with the use and transportation of nuclear materials.

With this in mind, the Court begins by noting there is an unmistakable duality in the atomic era in which we live. On the one hand, by harnessing the power contained in tiny atoms, atomic energy has allowed us to generate virtually limitless amounts of electricity without the need to rely upon fossil fuels that are inherently scarce, expensive, and environmentally harmful. On the other hand, atomic power necessitates the construction of large nuclear reactors where the smallest mistake can mean the deaths of thousands. The advent of atomic energy created weapons capable of destroying the world several times over, but also provided the deterrent necessary to prevent the Cold War from turning hot. Against this broad backdrop, the relevant facts in this case begin with the Department of Energy's assessment of the most recent challenge posed by nuclear power:

The end of the Cold War created a legacy of weapons-usable fissile materials both in the United States and the former Soviet Union. Substantial quantities of these materials, including plutonium and highly enriched uranium, are no longer needed for defense purposes. Further agreements on disarmament between the United States

and Russia may increase the surplus quantities of these materials. The global stockpiles of weapons-usable fissile materials pose a danger to national and international security in the form of potential proliferation of nuclear weapons and potential environmental, safety, and health consequences if the materials are not properly safeguarded and managed.^[1]

837 In order to reduce the stockpiles of these materials^[2], the United States and Russia have committed to roughly parallel programs to dispose of surplus weapons-grade plutonium. These programs are intended to ensure that the plutonium is disposed of in such a way that it will be unsuitable or unattractive for use in nuclear weapons. According to the parties, the "lock-step" nature of these programs ensures that both the United States and Russia be willing *837 to dispose of their surplus plutonium.^[3] The United States and Russia have agreed, in principle, to each dispose of four tons of surplus plutonium per year.

For its part, the United States has committed itself to a two-part strategy to accomplish this goal. Department of Energy, Record of Decision, 62 F.R. 3014 (January 21, 1997). First, the United States intends to immobilize some plutonium in glass or ceramic material for disposal in a geologic repository ("vitrification"). *Id.* Second, the United States intends to burn the remaining plutonium as a mixed oxide (MOX) fuel in existing, domestic, commercial reactors, with subsequent disposal of the spent fuel in a geologic repository. *Id.* According to the United States, this dual-strategy can dispose of four tons of plutonium per year.

Russia also has a two-part strategy to dispose of its four tons of plutonium per year, although the second part of the strategy is undetermined. The first part, however, calls for Russia to burn two tons of plutonium per year as MOX fuel in existing Russian reactors. As for the remaining two tons of plutonium, the Russians are considering three options ("The Expansion Plan"). Option A involves enhancement of existing Russian reactors to accommodate additional MOX. Option B involves the use of European reactors to burn more MOX. Option C involves the use of Canadian Deuterium Uranium (CANDU) reactors to burn more MOX.

Related to these larger disposition programs is the Parallex Project, the immediate subject of the instant lawsuit. The Parallex Project is an experimental test project which will combine MOX fabricated in the United States, with MOX fabricated in Russia, to fuel a CANDU experimental reactor located at Chalk River Laboratories in Chalk River, Ontario, Canada. Pursuant to the Project, the United States will fabricate and ship nine MOX rods to Chalk River Laboratories from Los Alamos, New Mexico. These MOX rods contain 119 grams of plutonium.^[4] Sometime later, Russia will transport nine additional MOX rods to Chalk River Laboratories from Russia. Once all 18 MOX rods have arrived at Chalk River, 16 will be used to power the experimental reactor.

In January 1999, the Department of Energy (DOE) issued an Environmental Assessment (EA) of the Parallex Project which considered the fabrication and transportation of MOX from Los Alamos to the Canadian Border, as well as the potential environmental impacts from the experiment itself. The EA included an analysis of fabrication and transportation accident scenarios. The EA did not include any analysis related to the Russian fabrication of MOX or the Russian shipment of MOX to Canada. Based upon the EA, the DOE made a Finding Of No Significant Environmental Impact (FONSI). This finding was announced on September 8, 1999, in a Record of Decision reported at 64 F.R. 48810.

838 On December 6, 1999, Plaintiffs filed a Complaint alleging that DOE had violated the National Environmental Policy Act (NEPA) in its actions related to the Parallex Project. Plaintiffs requested a Temporary Restraining Order (TRO) and a Preliminary Injunction enjoining the DOE from participating in the transportation of MOX from Los Alamos to Chalk River. On December 7, 1999, the Court granted the TRO. The TRO expires on December *838 17, 1999 at 5:30 p.m. On December 14 and 15, 1999, the Court took evidence and heard arguments on the Motion for a Preliminary Injunction.

I. Standard of Review

The duties imposed by the National Environmental Protection Act ("NEPA"), 42 U.S.C. § 4332(2)(C), are essentially procedural.

Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc., 435 U.S. 519, 558, 98 S.Ct. 1197, 55 L.Ed.2d 460 (1978). The Council on Environmental Quality has issued regulations ("CEQ regulations") which are used by courts to interpret NEPA. These regulations are entitled to substantial deference. Andrus v. Sierra Club, 442 U.S. 347, 358, 99 S.Ct. 2335, 60 L.Ed.2d 943 (1979). NEPA requires that each federal agency prepare an Environmental Impact Statement ("EIS") on "every recommendation or report on proposals for ... major federal actions significantly affecting the quality of the human environment" 42 U.S.C. § 4332(2)(C); Kleppe v. Sierra Club, 427 U.S. 390, 394, 96 S.Ct. 2718, 49 L.Ed.2d 576 (1976); Kelley v. Selin, 42 F.3d 1501, 1512 (6th Cir.1995). The EIS must address any adverse impacts of the proposed action and any alternatives to the proposed action. Selin, 42 F.3d at 1512. Under the CEQ regulations, an agency generally must prepare an Environmental Assessment ("EA") which briefly provides "sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant environmental impact." 40 C.F.R. § 1508.9. See also 40 C.F.R. § 1501.4(a), (b), (c); Jones v. Gordon, 792 F.2d 821, 827 (9th Cir.1986).

In determining whether to exercise discretion to grant a preliminary injunction, district courts consider the following four factors:

- (1) whether the movant has a "strong" likelihood of success on the merits; (2) whether the movant would otherwise suffer irreparable injury; (3) whether issuance of a preliminary injunction would cause substantial harm to others; and (4) whether the public interest would be served by issuance of a preliminary injunction.

McPherson v. Michigan High Sch. Athletic Ass'n, Inc., 119 F.3d 453, 459 (6th Cir. 1997) (en banc) (quoting Sandison v. Michigan High Sch. Athletic Ass'n, Inc., 64 F.3d 1026, 1030 (6th Cir.1995)). These factors are not prerequisites to issuing an injunction but factors to be balanced. In re DeLorean Motor Co., 755 F.2d 1223, 1229 (6th Cir.1985).

II. DISCUSSION

A. Likelihood of Success on the Merits

Plaintiffs assert a variety of rationales to support their contention that they are likely to succeed on their NEPA claims. The Court has grouped these arguments under the headings "Sufficiency of the Environmental Assessment" and "Improper Segmentation" for ease of discussion.

1. Sufficiency of the Environmental Assessment

An agency determination that a proposal will have no significant impact on the environment, and that no EIS is necessary, is a substantive decision. Such decisions are traditionally committed to the sound discretion of the agency and entitled to judicial deference. South Carolina ex. rel. Campbell v. O'Leary, 64 F.3d 892, 896 (4th Cir.1995); Town of Orangetown v. Gorsuch, 718 F.2d 29, 34 (2d Cir.1983). Agency deference is especially important in the context of the review of scientific decisions made by highly regulated federal agencies (such as the DOE). See Baltimore Gas & Elec. Co. v. Natural Resources Defense Council, Inc., 462 U.S. 87, 103, 103 S.Ct. 2246, 76 L.Ed.2d 437 (1983); Selin, 42 F.3d at 1511.

839 While judicial deference is required, the Administrative Procedures Act empowers the Court "to hold unlawful and set aside *839 agency action, findings, and conclusions found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 414, 91 S.Ct. 814, 28 L.Ed.2d 136 (1971); Selin, 42 F.3d at 1518 (quoting Crounse Corp. v. I.C.C., 781 F.2d 1176, 1193 (6th Cir.1986)). However, "neither the statute [NEPA] nor its legislative history contemplates that a court should substitute its judgment for that of the agency as to the environmental consequences of its actions ... The only role for a court is to ensure that the agency has taken a 'hard look' at environmental consequences; it cannot 'interject itself within the area of discretion of the executive as to the choice of the action to be taken.'" Kleppe, 427 U.S. at 410 n. 21, 96 S.Ct. 2718. See also Crounse, 781 F.2d at 1193. Finally, a

court must look beyond the conclusory statements in an EA and examine whether the agency has provided a "convincing statement of reasons why potential effects are insignificant." The Steamboaters v. FERC, 759 F.2d 1382, 1393 (9th Cir.1985); Public Service Company of Colorado v. Andrus, 825 F.Supp. 1483, 1496 (D.Idaho 1993). "[A]n agency's determination not to prepare an EIS must be 'reasonable under the circumstances,' when viewed 'in the light of the mandatory requirements and the standard set by [NEPA].'" Selin, 42 F.3d at 1518-19 (quoting Lower Alloways Creek Township v. Public Service Elec. & Gas Co., 687 F.2d 732, 742 (3d Cir.1982)).

Plaintiffs argue that the EA's conclusion that the Parallax Project had no significant environmental impact was arbitrary, capricious and an abuse of discretion. Plaintiffs urge this conclusion for several reasons. They argue that the EA failed to consider the full range of environmental risks associated with the Parallax Project including especially the risks of "Human Initiated Events" (which they describe as acts of intentional sabotage and terrorism) as opposed to the more familiar highway accident. Plaintiffs also argue that the DOE failed to adequately supplement the EA and examine alternatives to DOE participation in the Parallax Project, once the DOE decided that it had no intention of pursuing a large-scale Canadian MOX program to dispose of surplus American plutonium. They also argue that the EA was made in bad faith as evidenced by the fact that the DOE began fabricating the fuel rods for transport even before the EA was started.

Plaintiffs' argument about the failure of the EA to consider Human Initiated Events is based on the testimony of David Ballard, a Ph.D. student who has taught classes on the subject of terrorism. Ballard has also prepared documents for the State of Nevada concerning Yucca Mountain (the proposed geological depository for nuclear wastes in the United States), which discuss issues of terrorism. He has examined the EA prepared in this suit. Ballard criticizes the EA as failing to consider the possibilities of terrorism and sabotage. He believes that the EA should have commented on these possibilities and rated both the likelihood (based upon FBI crime statistics) and consequences of such criminal acts. Defense witness Laura Holgate (Director of the Office of Fissile Materials Disposition) explained that the possibilities of such criminal acts were considered and discounted in the EA because the amount of plutonium in the experimental shipments was insufficient to make a nuclear device such that there would be insufficient motivation for such criminal acts. Holgate also explained that the transportation systems contemplated by the DOE for this shipment — the S.T.S., or a comparable transport system — exercise extreme precaution to avoid such criminal acts and have been the subject of separate governmental study. Holgate further testified that the consequences of any such criminal act would not exceed those discussed in the EA for accidental destruction of the container.

840 The thrust of this argument was that no matter how the plutonium was dispersed into the air, the risk to human *840 health was inherently slight. While the Court is not wholly satisfied with the EA's assessment of the risk of terrorism and sabotage (because, as explained by David Ballard, the DOE could have more exactly expressed the likelihood of such incidents as opposed to merely relying upon the likelihood of accidents in general), the Court believes that the DOE's analysis of the risks associated with the American shipment of plutonium was not so unreasonable as to render it arbitrary and capricious.^[5]

Plaintiffs' second argument — at least as the Court understands it — is a serious, important and interesting argument given the purpose of the Parallax Project. The EA describes the purpose of the Parallax Project as a demonstration project or experiment to demonstrate the disposition of MOX, which includes weapons grade plutonium, by irradiating the MOX in CANDU reactors. (EA at ix.) The EA calls for the simultaneous experimentation on United States and Russian shipments of MOX. (*Id.*) However, as revealed in the Surplus Plutonium Disposition Final Environmental Impact Statement, the United States abandoned its policy of pursuing fissile material disposition by use of Canadian reactors in March of this year (just after the EA was prepared) when it contracted for disposition of MOX in United States light water reactors. (Plaintiffs' Exhibit 27 at coversheet.) This raises the question of whether the DOE should have supplemented the EA to further consider whether the "no action" alternative was more viable given the decision by the United States not to pursue disposition of MOX in Canadian reactors.

As in the Court's NEPA review generally, the review of supplementation issues is based on the "arbitrary and capricious" standard. Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 376, 109 S.Ct. 1851, 104 L.Ed.2d 377 (1989). This standard, in the context of supplementation questions, recognizes that supplementation is not required for all new information but is required when "there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(ii). This language comes from the CEQ's regulations interpreting

NEPA's requirements as to supplementation of Environmental Impact Statements. However, these same requirements have been applied by the courts to the supplementation of an EA (when no EIS is prepared). See, e.g., Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1152 (9th Cir. 1998); Price Rd. Neighborhood Ass'n v. United States Dept. of Transp., 113 F.3d 1505, 1509 (9th Cir.1997).

In this case, defense witness Laura Holgate explained that notwithstanding the current United States' policy, the experiment would still yield useful data for the United States (presumably useful in the event that the United States later changes its policy) and that the United States' participation in the experiment serves the important political interest of encouraging Russia's participation in the experiment (which simultaneously encourages the Russians to continue working on the Expansion Plan). While DOE's justification and goals related to the project have changed in some important ways, the Court does not believe that these changes are so fundamental that the DOE's decision not to supplement the EA should be regarded as arbitrary and capricious.

841 Plaintiffs' supplementation argument, though, does lend support to their next argument — which is that the DOE's EA *841 was done in bad faith to arrive at a predetermined result. Plaintiffs argue that the EA was done in bad faith after the DOE had already committed resources to its preselected alternative. The regulations governing NEPA require that environmental impact statements (and presumably environmental assessments as well) "serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made." 40 C.F.R. § 1502.2(g). For this reason, "[a]gencies shall not commit resources prejudicing selection of alternatives before making a final decision." 40 C.F.R. § 1502.2(f).

There is little case law discussing these requirements. In the case of South Carolina v. O'Leary, 953 F.Supp. 699, 707 n. 5 (D.S.C.1996), a district court in South Carolina held that evidence of some commitment of resources as to a South Carolina site for the storage of nuclear waste was insufficient to invalidate the EIS done in that case. In Havasupai Tribe v. United States, 752 F.Supp. 1471 (D.Ariz.1990), *aff'd* 943 F.2d 32 (9th Cir.1991), a district court in Arizona held that the building of a fence around a proposed uranium mine site was not a sufficient commitment of resources to invalidate the later EIS concerning the proposed mine.

In this case, the preparation of MOX fuel rods before the EA was even started raises the possibility of bad faith on the part of the DOE in drafting the EA. Unlike the building of a fence (as in the *Havasupai Tribe* case), the fabrication of the MOX rods was a significant event and expense in the overall Paralex Project. While this does not automatically demonstrate bad faith, because the rods could be used by the DOE at Los Alamos apart from use in the Paralex Project, it further raises the possibility that DOE had committed itself to the project prior to the EA. What really convinces the Court that Plaintiffs are likely to succeed on their bad faith claim, however, is evidence introduced by Defendants to explain why the Paralex Project is so important to American interests. Defendants present extensive testimony that the United States' has a political strategy to use the shipment of American MOX rods as political leverage to encourage the Russians to actively engage in the disposition of surplus plutonium and nuclear non-proliferation. This strategy, which the United States has evidently pursued for a long time, combined with the fact that the MOX rods were fabricated before the EA was even started and the questionable scientific value of the Paralex Project, suggests a likelihood that DOE had already committed itself to the Paralex Project long before the EA was completed. Plaintiffs are likely to succeed on this claim.

2. Improper Segmentation Arguments

Plaintiffs have made two important and distinct segmentation arguments. The first of these arguments asserts that the DOE improperly segmented the Paralex Project from a larger program to dispose of MOX at Canadian reactors. The second argument contends that the DOE improperly segmented the Paralex Project itself, by analyzing the potential environmental impact of the American shipment of MOX but ignoring the Russian shipment. Both of these arguments depend on the overall case law and regulations discussing the segmentation of environmental decision making.

CEQ regulations outline factors that an agency must consider in determining whether an action "significantly" affects the environment within the meaning of NEPA. These factors include "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by ... breaking [the action] down into small component parts...." § 40 C.F.R. 1508.27(b)(7). The scope of an EIS must *842 include "cumulative actions, which when viewed with other proposed actions have a cumulatively significant impact and should therefore be discussed in the same impact statement." 40 C.F.R. § 1508.25. Furthermore, an EIS must include "connected actions" which are actions that: (1) automatically trigger other actions, (2) cannot or will not proceed unless other actions are taken previously or simultaneously, and (3) are interdependent parts of a larger action and dependent on the larger actions for their justification. *Id.* Finally, an EIS must include "similar actions, which are actions that, when viewed with other reasonably foreseeable ... or proposed actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." *Id.*

From these regulations, courts have developed an "impermissible segmentation" rule. Impermissible segmentation involves a "major federal action" where a small part of that action has been "segmented" in order to escape application of the NEPA process. The hallmark of improper segmentation is the existence of two proposed actions where the proposed component action has little or no independent utility and its completion may force the larger or related project to go forward notwithstanding the environmental consequences. *Maryland Conservation Council v. Gilchrist*, 808 F.2d 1039 (4th Cir.1986); *Bragg v. Robertson*, 54 F.Supp.2d 635, 649 (S.D.W.Va.1999). Courts have also required that environmental effects of multiple projects be analyzed together when those projects will have a cumulative effect on a given region. *Kleppe*, 427 U.S. at 410, 96 S.Ct. 2718; *Andrus*, 825 F.Supp. at 1501. Finally, multiple stages of a development must be analyzed together when "the dependency is such that it would be irrational, or at least unwise, to undertake the first phase if subsequent phases were not also undertaken." *Thomas v. Peterson*, 753 F.2d 754, 759 (9th Cir.1985). Compare *Trout Unlimited v. Morton*, 509 F.2d 1276 (9th Cir.1974) with *Sierra Club v. Watkins*, 808 F.Supp. 852, 864 (D.D.C. 1991).

As to Plaintiffs' first segmentation argument, that the DOE improperly segmented the Parallax Project from future possible Russian and United States' shipments and use of MOX in CANDU reactors, this claim is extremely unlikely to succeed. The United States does not currently plan to dispose of MOX in Canadian reactors. Instead, the United States plans to dispose of MOX in American reactors. This plan is the subject of separate environmental impact studies. (Plaintiffs' Exhibit 27.) The possible Russian disposition of MOX in Canada is, according to the testimony, so speculative that there are no concrete plans to be analyzed. This is significant in that NEPA only covers "proposed" federal actions. 42 U.S.C. § 4332(2)(C). The CEQ regulations provide that a "proposal exists at that stage in the development of an action when an agency subject to [NEPA] has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated." 40 C.F.R. § 1508.23. Here, the evidence flatly contradicts the assertion that the DOE or the Russians have made any commitment to an overall MOX program in Canada or have made any detailed preparations for such a commitment. Additionally, since the type of planning for disposition of nuclear projects is detailed in nature and requires decision making about the facilities, fuel, transportation, waste storage, *etc.*, none of which can be discerned from the vague interest in foreign MOX processing expressed by either Russia or the United States, no meaningful assessment could possibly be prepared regarding these larger plans. *See generally Kleppe*, 427 U.S. at 404, 96 S.Ct. 2718 (finding NEPA inapplicable to a series of studies on the impact of resource development activities in the "Northern Great Plains" because they were meant only 843 "to gain background *843 environmental information for subsequent application in the decision making process with respect to individual coal-related projects."); *Northcoast Environmental Center v. Glickman*, 136 F.3d 660, 667-70 (9th Cir.1998).

Furthermore, the relationship between the Parallax Project and a larger Russian or American MOX Program in Canada is not so connected that a Court finding of improper segmentation is likely. The evidence at the hearing tended to show that aside from this experiment, the United States will not burn its MOX in CANDU reactors in the foreseeable future. Furthermore, the evidence indicated that Russia would not even be in a position to implement a full-scale MOX program in Canada for at least eight to ten years. This temporal disconnect by itself discounts the relationship between Parallax and a larger MOX program. It appears, as the DOE represents, that Parallax is an experiment which provides future options to both the DOE and the

Russians.

As for the future — whatever will be will be. Since the future is not ours to see,^[6] however, and in the absence of something approaching a concrete plan by either the United States or Russia, no meaningful EA or EIS could even be conducted on a larger MOX program. See South Carolina v. O'Leary, 64 F.3d at 898-99 (finding no improper segmentation where initial shipments only preserved the future option of additional shipments). Accordingly, the Court determines that this segmentation argument fails as a matter of fact and law.

Plaintiffs' second improper segmentation argument, however, is persuasive. Plaintiffs argue that the Paralex Project involves a joint United States-Russian-Canadian experiment, in which plutonium will be shipped from Russia and the United States to Canada. While the EA considered the American shipment of MOX to Canada, and the experiment itself, it failed to analyze the potential environmental effects of the Russian shipment. Plaintiffs argue that NEPA applies to the Russian shipment, and that the EA should have considered this part of the project. Defendants respond that NEPA does not apply to programs carried out outside the United States' border. In order to resolve this dispute, the Court takes notice of several facts.

Defense witness George Burt Stevenson (NEPA compliance officer for the Office of Fissile Materials Disposition) established that the Russian plutonium would be transported along the St. Lawrence Seaway to the Port of Cornwall — within one mile of the United States' border — and then driven by truck to Chalk River. Stevenson's testimony also established that the United States will pay the full value of the Russian transportation to Chalk River. Furthermore, the evidence indicates that the United States exercises some degree of control over the Russian transportation in that it is the subject of a tri-lateral agreement between the United States, Canada and Russia. The EA recognizes that an accident involving the American shipment of MOX might have "transboundary effects on Canadian populations,"^[7] raising the logical possibility that an accident involving the Russian MOX shipment might also have transboundary effects on American populations. Finally, the Russian shipment is logically and factually connected with the United States' shipment because only together do they provide the MOX necessary for the Paralex Project.

844 With these rather unique facts, the Court notes that this case deftly evades legal precedent. NEPA case law provides no easy answer to the question of if, and *844 when, NEPA should be applied extraterritorially. See Environmental Defense Fund Inc. v. Massey, 986 F.2d 528 (D.C.Cir.1993) (holding that NSF must comply with procedural requirements of NEPA when considering incineration of food waste in Antarctica because: (1) the presumption against extraterritoriality does not apply because NEPA is designed to regulate conduct occurring within the territory of the United States; (2) the United States exercises legislative control over Antarctica; (3) any concerns about NEPA interference with foreign policy were overstated because when foreign policy interests outweighed benefits of NEPA compliance, NEPA's requirements must yield; and (4) broad language of the statute supports broad application of NEPA requirements); Natural Resources Defense Council v. NRC, 647 F.2d 1345 (D.C.Cir.1981) (holding that NEPA did not apply to agency decision to grant a nuclear technology export license to Phillippines because: environmental impacts would be felt exclusively in Phillippines, nuclear fuel export/import policies were especially incongruous with NEPA, and agency had no ongoing control over fuel after license was issued); Wilderness Society v. Morton, 463 F.2d 1261 (D.C.Cir.1972) (holding that Canadian citizens have standing to intervene in NEPA based suit against agency on the basis of citizens's claims that possible oil spill from Trans-Alaskan oil pipeline might cause damage to Canada); Greenpeace USA v. Stone, 748 F.Supp. 749 (D.Hawaii 1990) (NEPA did not apply to United States Army's transportation and destruction of nerve gas from Germany to Johnston Atoll, an unincorporated United States Territory, because: (1) the decision to transport and destroy the goods was the product of negotiations between the President and the German Chancellor; (2) extension of NEPA to cover environmental harms in other countries was an affront to foreign sovereignty; and (3) application of NEPA would interfere with President's foreign policy power; but noting that holding might be different if United States agency's action abroad had direct environmental impacts within this country or where there had been no environmental assessment in foreign country); National Organization for Reform of Marijuana Laws v. United States, 452 F.Supp. 1226 (D.D.C.1978) (assuming that NEPA applies to herbicide spraying in Mexico which affects the United States' environment).

In the Court's estimation, although the case law does not compel any particular answer, the facts in this case warrant

extraterritorial application of NEPA. NEPA requires an EA for "major federal actions significantly affecting the quality of the human environment" 42 U.S.C. § 4332(2)(C). Here, the Federal government exercises control over the Russian shipment, is paying for the Russian shipment, the Russian shipment will pass within in a mile of the United States border, and the Russian shipment is part of an overall Paralex Project that involves significant time, energy, and resources on the part of the Federal government. While the likelihood of environmental impacts related to the Russian shipment are likely to be remote (in the same way that the likelihood of environment impacts related to the United States shipments are remote), the remoteness of those threats did not deter the initial EA from studying the American shipment and should not have deterred the DOE from studying the Russian shipment either (at least as it concerns potential environmental impacts to the United States). Accordingly, the Court concludes that the Plaintiffs are likely to prevail as to this segmentation (arbitrary and capriciousness) argument.

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The Court's conclusion on this matter is reinforced by Executive Order 1211-4, in which the Executive declared that the policies of NEPA applied to "major federal action" in a foreign country which has effects on the United States environment (though the effects on the foreign country itself need not be studied). See Exec. *845 Order 1211-4, at § 3-5 (Jan. 4, 1979).^[8] This reflects a common sense understanding of NEPA—if major federal action is involved, and there is a risk of significant environmental damage in the United States, governmental officials must seriously consider those environmental risks. To hold otherwise would be to allow the government to fund projects that might cause serious damage to the American environment without any accountability for those actions. NEPA is designed to ensure that federal agencies contemplating actions that will effect the American environment carefully consider those environmental effects. It would elevate form over substance to suggest that simply because those environmental impacts emerge on the other side of a national boundary, NEPA procedures are not applicable.

Overall, the Court concludes that Plaintiffs are likely to prevail in at least two of their arguments that the DOE violated NEPA as to its environmental assessment of the Paralex Project. Therefore, the Court concludes that the Plaintiffs are likely to prevail on the merits.^[9]

B. Irreparable Injury

Plaintiffs argue that a violation of NEPA constitutes per se irreparable injury because NEPA is a procedural statute. The heart of this argument is the contention that the injury which NEPA seeks to prevent is uninformed decision making, and that once the NEPA procedure is disregarded, there is no way to repair that injury. The Government responds that the case law does not support the conclusion that a NEPA violation is per se irreparable injury.

There is no doubt that NEPA is a procedural statute and that it is designed to ensure that decision makers consider all significant environmental impacts before choosing a course of action. See 42 U.S.C. 4332; 40 C.F.R. § 1502.1; Vermont Yankee Nuclear Power Corp., 435 U.S. at 558, 98 S.Ct. 1197. While this might logically imply that the violation of NEPA inherently creates an irreparable injury, because the inadequately informed decision has already been made, the United States Supreme Court has made it clear that violations of procedural environmental statutes do not mandate the issuance of an injunction, and that plaintiffs must still show some tangible irreparable environmental injury. See Weinberger v. Romero-Barcelo, 456 U.S. 305, 102 S.Ct. 1798, 72 L.Ed.2d 91 (1982); Amoco Production Co. v. Gambell, 480 U.S. 531, 107 S.Ct. 1396, 94 L.Ed.2d 542 (1987); Town of Huntington v. Marsh, 884 F.2d 648 (2nd Cir.1989) (applying Weinberger and Amoco and concluding that they require a showing of irreparable injury apart from the violation of NEPA procedural requirements).

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Although NEPA violations may not create a presumption of irreparable injury, the Court believes that such violations do create a type of injury that courts must consider when deciding whether to grant injunctive relief. Sierra Club v. Marsh, 872 F.2d 497 (1st Cir.1989) (holding that NEPA is designed to prevent harm to the environment through inadequately informed decision making and that "courts should take account of this harm *846 and its potentially 'irreparable' nature."). More specifically, such violations by their very nature cause injury to the decision making process and the ability of the public to participate in that process.

Here, although Plaintiffs cannot demonstrate a likelihood of plutonium release, or any realistic likelihood that the environment will be put in jeopardy by the shipment of MOX from Los Alamos to Canada, they have shown an injury to the decision making process that is incapable of repair if the preliminary injunction does not issue. Once the shipment of MOX is transported from Los Alamos to Chalk River, and the Paralex Project is set in motion, it is extremely unlikely that a court would, or could, enjoin the Project and order an EA of the Russian shipment. Therefore, once the American MOX arrives in Chalk River, the Plaintiffs will forever lose the ability to formally comment upon safety and environmental concerns related to the Russian shipment of MOX. Furthermore, once the American MOX is unloaded at the reactor, there will be no way to force the DOE to review the Russian shipment in order to determine whether there are significant environmental impacts or not. In the Court's view, these considerations demonstrate that the Plaintiffs will be irreparably injured if the injunction does not issue.

C. Harm to Others and Public Interest

Although the Sixth Circuit has distinguished the potential harm to others caused by the granting of a preliminary injunction from the question of whether the public interest would be served by the issuance of an injunction, the Court feels compelled by the facts of this case to combine the analysis of these two factors.

Ordinarily, a court does not assess whether society will approve or disapprove of a given judicial decision before it is handed down. Justice, as they say, is blind. However, when a court sits in equity and must decide whether or not to grant a preliminary injunction, the law requires that the impact of such an injunction on the society at-large be assessed. In order to make this determination, courts must often hear arguments about why public policy favors one outcome over another. The reason that the law encourages this discussion is that public policies reflect society's assessment of how various interests and concerns should be prioritized and valued.

In the normal case, the legal discussion about an injunction takes center stage, and the public policy implications are the background against which a judge makes a decision. In the instant case, however, the parties' presentation of evidence at the preliminary injunction hearing focused primarily on issues of public and foreign policy, and only rarely touched on the application of facts to law. Instead of hearing arguments about cases and statutes, the Court found itself in what seemed, at times, like a legislative or executive hearing, in which scientists and other experts testified about the merits and demerits of a given policy.

The non-legal nature of much of the discussion is illustrated by the fact that the parties ask the Court to reach conclusions of law and/or fact regarding: which disposition option the Russians are most likely to utilize in the future; whether the DOE assumed the proper "release fraction" when calculating its risk assessment; the geopolitical effects of a court order preventing a largely symbolic joint United States-Russia nuclear experiment from proceeding; the policy implications of a decision to send American plutonium to Canada on American non-proliferation initiatives; the statistical threat posed by terrorists to shipments of nuclear material across the United States and in foreign countries; whether a DOE risk assessment computer model, "RADTRAN 4," is faulty because it fails to assess the possibility of a terrorist attack; and whether another risk assessment computer model ⁸⁴⁷ undervalues the effects of a catastrophic accident at a nuclear reactor.

Not only is the Court asked to reach conclusions to these questions, it is asked to do so as part of a preliminary injunction in which parties had a total of seven days to prepare, two days to argue, and the Court has only two days to decide the issue before the TRO expires. Furthermore, the Court must decide the case knowing that its decision will probably be the final decision in this case if relief is denied.

Against this backdrop, Plaintiffs argue that the equities favor the granting of an injunction for three reasons. First, Plaintiffs argue that the foreign policy interests of the United States in non-proliferation favor an injunction because the transportation of plutonium across our borders is, by definition, proliferation. Second, Plaintiffs express a general fear that the potential success of the Paralex Project will encourage further shipment and use of MOX in Canadian reactors which they view as contrary to the

interests of sound environmental policy. Third, Plaintiffs argue that the importance of NEPA's procedural requirements, and the general policy of ensuring that environmental costs are properly assessed by federal agencies before they take action, tips the scales in favor of an injunction.

Like the Plaintiffs, Defendants suggest that the United States' non-proliferation goals are important policy interests for the Court to consider, but Defendants argue that these goals disfavor an injunction. Defendants contend that the harms associated with an injunction would be two-fold. First, and most immediately, such an injunction would probably lead to a Russian decision not to participate in the Parallax Project and thereby setback efforts to find a disposition alternative that will enable the Russians to dispose of their surplus plutonium. Second, and more generally, Defendants argue that an injunction would send a damaging signal to the world community, including the Russians, that the United States was not serious about disposing of surplus plutonium and that it could not be trusted to fulfill its international commitments in this regard. Defendants point out that the Parallax Project flowed out of negotiations between President Clinton and President Yeltsin at a recent bi-lateral summit, and suggests that American credibility would be negatively impacted by a decision to grant the injunction.

The Court begins by noting that courts are traditionally deferential to the Executive regarding matters of foreign affairs because such matters are explicitly entrusted to the political branches of government. This deference is implicitly commanded by the Constitutional design of our Federal government, and reinforced by the fact that resolving foreign policy questions necessarily requires institutional resources and expertise that the judiciary simply does not possess. Baker v. Carr, 369 U.S. 186, 217, 82 S.Ct. 691, 7 L.Ed.2d 663 (1962) (explaining that, "[t]here are sweeping statements to the effect that all questions touching foreign relations are political questions. Not only does resolution of such issues frequently turn on standards that defy judicial application, or involve the exercise of a discretion demonstrably committed to the executive or legislature; but many such questions uniquely demand single-voiced statement of the Government's views."); Chicago & Southern Air Lines v. Waterman S S Corp., 333 U.S. 103, 111, 68 S.Ct. 431, 92 L.Ed. 568 (1948) (stating that "the very nature of executive decisions as to foreign policy is political, not judicial. Such decisions are wholly confided by our Constitution to the political departments of the government, Executive and Legislative. They are delicate, complex, and involve large elements of prophecy. They are and should be undertaken only by those directly responsible to the people whose welfare they advance or imperil. They are decisions of a kind for which the Judiciary has neither aptitude, facilities nor responsibility and *848 have long been held to belong in the domain of political power not subject to judicial intrusion or inquiry."). While the Court must still decide whether Plaintiffs are entitled to an injunction in this case, these considerations require the Court to be ever mindful of the impact that an injunction might have on the Executive's power to make foreign policy. McCulloch v. Sociedad Nacional, 372 U.S. 10, 83 S.Ct. 671, 9 L.Ed.2d 547 (1963); Tel-Oren v. Libyan Arab Republic, 726 F.2d 774, 804 (D.C.Cir.1984)

The most obvious policy interest which the Court must consider is society's interest in the non-proliferation of nuclear materials. Both parties suggest that this interest supports their position. If ever there were an issue that demanded deference to the Executive, surely this is it. Defendants argue that an injunction would cause damage to the United States-Russian relationship, and have a disastrous symbolic effect on our ability to convince countries and actors throughout the world that we are serious about nuclear non-proliferation. Although Plaintiffs present a contrary theory, and the Court cannot know for certain which party is correct, it must defer to the Executive's expertise in assessing the foreign policy impacts of certain actions. Defendants, not the Plaintiffs, represent the branch of elected government to whom the power to make foreign policy decisions was given by the Constitution. Therefore, in the absence of overwhelming evidence by the Plaintiffs demonstrating that the Executive's foreign policy assessment is not credible or mistaken, the Court must conclude that American non-proliferation interests would be harmed if the Court were to issue an injunction.

Second, Plaintiffs argue that an injunction serves the public's interest in protecting the environment because the use of MOX in Canadian reactors is inherently unsafe, and that the completion of the Parallax Project will commit the United States and/or Russia to implementing a full-scale Canadian MOX program sometime in the future.^[10] The Defendants respond that the Canadian MOX option is no longer a viable disposition alternative for American plutonium, because DOE has committed to plutonium disposition at domestic reactors, and that Russian disposition in Canadian reactors is only one option among many. As the Court has explained throughout, the development of a Russian policy, or even a United States policy, to dispose of MOX

fuel at Canadian reactors is a long-term political question. In the United States, that question appears to have been answered by DOE's decision to dispose of MOX at domestic reactors. In Russia, it appears that the Canadian MOX option is still viable.

Regardless of the status of these policy options, however, they are inherently political questions best resolved by elected officials of the United States and Russian governments. Attempts to influence that policymaking process through the courts are not appropriate, and would require the courts to intrude upon the powers reserved for other branches of government. Therefore, because the Court is not institutionally equipped to determine whether a future Canadian MOX program would be good policy for the United States, Canada, or Russia, the impact that an injunction might have on the prospects of such a large scale MOX program is not a persuasive factor for or against the issuance of an injunction.

849 Third, and most persuasively, Plaintiffs invoke society's interest in informed environmental decision making as a reason to grant the injunction. While the Court agrees with Plaintiffs that NEPA's procedural goals are important societal interests, in this case these goals would only be generally implicated by a decision to grant *849 or deny the injunction. Whether or not in this case, this Court grants an injunction, the only impact on society's general interest in informed environmental decision making will be whatever precedential value this decision may have in the future. In contrast, the non-proliferation goals discussed above may be specifically affected by a decision to grant an injunction because, according to the Defendants, American participation in the Parallax Project is an important symbolic signal to the rest of the world about the dedication of the United States to nuclear non-proliferation.

The factors to be considered by a Court are not prerequisites to issuing an injunction but factors to be balanced. DeLorean Motor Co., 755 F.2d at 1229. When the Court considers the broader foreign policy interests that might be sacrificed if an injunction were issued, and the Separation of Powers concerns which require judicial deference to the Executive in matter of foreign affairs, the Court finds these factors to be persuasive and conclusive. As one court has explained, "this country's interests in regard to foreign affairs and international agreements may depend on the symbolic significance to other countries of various stances and on what is practical with regard to diplomatic interaction and negotiation. Courts are not in a position to exercise a judgment that is fully sensitive to these matters." See Adams v. Vance, 570 F.2d 950, 955 (D.C.Cir.1978) (noting that the issuance of an injunction is discretionary, and where that remedy will intrude into the conduct of foreign affairs it should be granted only on an extraordinarily strong showing). Compelled by the force of these considerations, Plaintiffs' Motion for a Preliminary Injunction will be denied.

CONCLUSION

Upon due consideration of the arguments of the parties, this Court has concluded that the Plaintiffs are most likely to prevail on some of their claims of violation of NEPA. The Court has also concluded that, although the risk of environmental damage associated with the Parallax Project is extremely slight, Plaintiffs have demonstrated a serious procedural injury which ordinarily would warrant remedy. However, due to the weighty considerations of United States foreign policy, nuclear non-proliferation, and the general interests of the Executive office in carrying out United States foreign policy, the Court declines on equitable grounds to issue a preliminary injunction. Therefore, an Order shall issue denying the request for preliminary injunction and vacating the temporary restraining order issued on December 7, 1999.

[1] Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Statement Summary, Department of Energy, December 1996 (DOE/EIS-0229).

[2] It is estimated that the United States and Russia have 50 tons of surplus weapons grade plutonium.

[3] During the Cold War, MAD or "Mutually Assured Destruction," stood for the idea that peace between the United States and Russia was ensured by the fact that an offensive nuclear strike by one superpower would necessitate an immediate counterstrike by the other. It appears that today MAD stands for "Mutually Assured Disposition," meaning that one superpower will only dispose of its surplus weapons-grade plutonium if it is certain that the other superpower is doing the same.

[4] The rods also contain quantities of uranium. The exact quantities of nuclear materials which are part of this project have been scaled back from those proposed and discussed in the Environmental Assessment.

[5] Plaintiffs have also complained about some of the technical figures used by the DOE — such as the release fraction for the failure of the container. Without showing that DOE was made aware, or should have been aware, of the inaccuracy of these technical figures, and that the inaccuracy of these figures undermines confidence in the overall calculations, this argument cannot justify a conclusion that the EA was "arbitrary and capricious."

[6] Happy Holidays, Doris Day, wherever *you* may be.

[7] The EA reaches this conclusion because, in part, the bounding analysis for accidents involving destruction of the MOX container has effects on a 50-mile area downwind from the accident. (EA at 38, D-7.)

[8] While the Court regards this section of the Executive Order as a fair statement of the extraterritorial application of NEPA, the Court notes that the judiciary is not bound by the Executive Branch's interpretations of NEPA. Therefore, precise exceptions which may be included in the Executive Order for various policy reasons are not binding on the courts.

[9] The Court has considered Defendants' laches argument in the context of whether Plaintiffs will prevail. The Court determines that this defense is very unlikely to succeed. The FONSI determination at issue was made on September 9, 1999. This determination is the pertinent decision for laches and statute of limitations purposes. Southwest Williamson Co. Community Assoc., Inc. v. Slater, 173 F.3d 1033, 1036 (6th Cir.1999). Since Plaintiffs' delay in bringing suit was less than three months, it is very unlikely that this defense will prevail.

[10] The Court suspects that this is the heart of Plaintiffs' concern in this litigation as it explains why the Plaintiffs introduced so much evidence about the safety and environmental implications of a larger MOX program.

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